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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
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10/774,194

02/05/2004

Yi-Chiau Huang

AMAT/8461/CMP/ECP/RKK

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03/09/2006

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EXAMINER

JEFFERSON, QUOVAUNDA

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|  |  |  |  |
|--|--|--|--|
| <p align="center"><b>Advisory Action</b><br/><b>Before the Filing of an Appeal Brief</b></p> | <b>Application No.</b><br>10/774,194   | <b>Applicant(s)</b><br>HUANG, YI-CHIAU |  |
|  | <b>Examiner</b><br>Quovaunda Jefferson | <b>Art Unit</b><br>2823                |  |

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 21 February 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
 b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
 (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
 (b) ☐ They raise the issue of new matter (see NOTE below);  
 (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
 (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
 5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
 6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
 7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
 The status of the claim(s) is (or will be) as follows:  
 Claim(s) allowed: \_\_\_\_\_.  
 Claim(s) objected to: \_\_\_\_\_.  
 Claim(s) rejected: 1-17 and 20.  
 Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
 9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
 10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
 12. ☒ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_  
 13. ☐ Other: \_\_\_\_\_

**W. DAVID COLEMAN**  
**PRIMARY EXAMINER**

Continuation of 11. does NOT place the application in condition for allowance because:

Regarding claims 8, 13, and 14, Applicant states that Uzoh does not teach, show, or suggest preheating the substrate during the rinsing process as recited in claims 8 and claims dependent upon thereon. In response, Uzoh teaches preheating the substrate by rinsing it in heated water. Applicant states that Uzoh doesn't teach, show, or suggest annealing in an annealing station subsequent to preheating the substrate. Uzoh does teach that the substrate is preheated, then annealed (column 4, lines 5-10). Applicant states that that Uzoh at al. does not describe annealing the substrate at an annealing station, separate from the spin rinse dry cell. However, the applicant did not claim that the annealing station had to be separate from the spin rinse dry cell in claims 8, 13, or 14. Therefore the simultaneous annealing station/spin rinse dry cell taught by Uzoh meets this claim limitation.

Regarding claims 1-7, Applicant states that Uzoh and Cheung does not teach, show or suggest heating a substrate in a cleaning cell, transferring the substrate from the cleaning cell to an annealing station, and annealing the substrate at the annealing station, as recited in claim 1 and claims dependent thereon, and lacking in Uzoh et al. In response, while Uzoh doesn't teach separate cell/chamber for heating and annealing, Cheung teaches a machine that can does have separate cells for heating and annealing in paragraphs 24 and 25. Therefore, it teaches the limitation of transferring the substrate from a plating cell to a cleaning cell, heating the substrate in the cleaning cell, transferring the substrate from the cleaning cell to an annealing station, and annealing the substrate at the annealing station, as recited in claim 1 and claims that dependent upon it.

Regarding claims 9-11, Applicant states that Kimura et al. does not teach, show or suggest preheating a substrate in a spin rinse dry cell and annealing the substrate at an annealing station, as lacking in Uzoh et al. Uzoh does show that preheating, by adding heated water, a substrate in a spin rinse dry cell. Kimura teaches that rinsing is typically conducted in a spin-rinse dry cell in paragraph 10.

Regarding claim 12, Applicant states that Uzoh et al., Kimura et al. and Cheung et al., alone or in combination, do not teach, show or suggest plating a conductive layer onto a substrate, rinsing the substrate of unwanted residue chemicals, preheating the substrate during the rinsing process, and annealing the substrate at an annealing station subsequent to the preheating process, wherein the preheating is conducted in a spin rinse dry cell, as recited in claim 8, and claims dependent thereon. The combination of Uzoh et al., Kimura et al. and Cheung et al. does teach the limitation set forth by the claim.

Regarding claims 15 and 16, Applicant states that Ivanov et al. does not describe preheating in a spin rinse dry cell and annealing in an annealing station, as lacking in Uzoh et al. Uzoh does teach this limitation and Ivanov was not used as a reference for this purpose.

Regarding claim 17, Applicant states that Lubomirsky et al. does not describe a radiant heating assembly to provide radiant heat to directly heat the substrate. Lubomirsky teaches that rinsing fluid may be introduced at a predetermined temperature by a heating element (column 7, lines 10). Uzoh teaches that this can be heated using radiant heat and that the heat can be used to directly heat the substrate (column 4). Therefore, the combination of Lubomirsky and Uzoh teaches the claim limitation.

Regarding claim 20, Applicant states that Lubomirsky, Uzoh, and Narushima do not disclose the limitations set forth in claim 20. In particular, the applicant states that Narushima does not teach, show or suggest a rinsing cell having a radiant heating assembly, and it is impossible to combine a ceramic heater of a thermal CVD system as disclosed in Narushima with a spin rinse dry cell of a plating cell of Lubomirsky et al or a cleaning/annealing chamber of a plating cell of Uzoh et al. Narushima is referenced to show a temperature monitoring system. As discussed before, Lubomirsky discloses a heating operation and Uzoh discloses a radiant heating source. Therefore the combination of Lubomirsky, Uzoh, and Narushima teach on the limitation set forth on this claim.

Therefore, the applicant's arguments regarding claims 1-17 and 20 are moot.